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SUPPLEMENT 11
TO
JOINT EVALUATION OF
SOVIET MISSILE THREAT IN CUBA

[REDACTED]
PREPARED BY

Guided Missile and Astronautics Intelligence Committee
Joint Atomic Energy Intelligence Committee
National Photographic Interpretation Center

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2200 HOURS

30 OCTOBER 1962

R. F. Nichols
Supervisory Office Manager

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ERRATUM FOR

Please substitute the attached illustration (Figure 6) in [redacted]
[redacted] KH Supplement 11 to Joint Evaluation of Soviet Missile Threat in
Cuba, 30 October 1962, prepared by Guided Missile and Astronautics
Intelligence Committee, Joint Atomic Energy Intelligence Committee,
and National Photographic Interpretation Center.

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NOTICE

This report is based on continued analysis of low-level photography made on [redacted] (See Figures 1 and 4.) The poor quality and obliquity of much of this photography has precluded a detailed assessment of activity at some of the offensive missile sites. There was no photographic coverage on [redacted]

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SUMMARY

1. Available evidence does not indicate Soviet preparation for dismantling or vacating the offensive missile sites identified in Cuba. On the contrary, full operational capability at all MRBM sites still existed as of mid-afternoon, [redacted] (See Figure 2.)

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2. There is clear photographic evidence that construction activity has continued at the San Cristobal and Sagua La Grande MRBM sites since the last observation on [redacted] Limited and poor photography of the IRBM sites precludes a positive assessment of construction activity. (See Figure 3.)

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3. Many of the missile erectors at the MRBM sites have been moved from their hardstands and are no longer visible. There is evidence that at least one of these erectors has been concealed in woods, as have the majority of the missile-associated vehicles and equipment. All four erectors at San Cristobal MRBM Site 4 are in position, or nearly so, next to the launch stands. The canvas cover has been removed from one of these erectors. The movement of missile erectors away from positions next to the launch stands is judged to have had no effect on full operational capability, providing these erectors have remained in the general area.

4. The use of camouflage, canvas covers, and natural concealment has been extended since [redacted]

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5. Launch stands, cabling, and other components at each of the MR BM launch sites are still in place.

6. No refugee or clandestine reports relating to the dismantling of the Soviet missile sites in Cuba have been received during the period

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7. ELINT has provided information that SA-2 guidance system radars, FRUITSET, operating in the C-Band, have been noted in operation at 17 of the 24 SAM locations in Cuba, including the Los Angeles site, near where the U-2 wreckage was found. SPOONREST signals have been obtained from 22 of the 24 locations.

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DISCUSSION

OFFENSIVE MISSILE READINESSSan Cristobal MR BM Area1. Site 1 (22-40-05N 83-17-50W)

Last coverage: Low-level

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a. Readiness Status

The site has a full operational capability.

b. Supporting Evidence

Only two of the four launch positions are visible on the latest photography. At both of these positions, the erectors have been removed. Quality of photography precludes determination of the continued presence of launch stands. There is no evidence that any cabling has been removed. Four missile-ready tents, and portions of three additional missile-ready tents, are visible. Three canvas-covered missile transporters are visible. They have not been moved from positions previously reported.

c. Significant Trends

There is some evidence of continued construction. Briefly summarized, the activity includes:

- (1) Framing has progressed on a fairly large, rectangular building in the southwest corner of the site, where personnel accommodations are located. The uprights were visible on [redacted] This building could be a mess hall.
- (2) Scaffolding is now present at the east entrance to the arched-roof building, possibly in preparation for con-

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struction of a retaining wall. Scaffolding was noted at the opposite entrance on [redacted] A group of 10 men is at the building. Some are at the entrance and others on the arched-roof. (See Figure 6.)

- (3) A large frame structure in the woods just north of tent area, which was not roofed on photography of [redacted] is now roofed.

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In the support area, nine of approximately twenty-five large tents, and eight of approximately twenty smaller tents, are no longer in evidence. This suggests that personnel have been moved into barracks or that construction workers have left the site.

2. Site 2 (22-41-00N 83-15-00W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

Three of the four launch positions are visible on the latest photography. The erectors previously located at these positions have been moved. The fourth launch position can be identified but poor quality photography precludes detailed interpretation. Of the three launch positions observed, two launch stands, and probably a third, are still in place. Cabling from the launch stand to the junction and to the control center is visible at two launch positions; at the third, cabling connects only the junction and control center. Three missile transporters, plus one probable missile transporter, are visible and have not been moved from previously reported positions. Five missile-ready tents are still visible.

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c. Significant Trends

Nine to ten large tents, about 50 percent of total tentage, are no longer present. This again suggests that personnel have moved to more permanent quarters or that construction personnel have departed from the area.

Some improvement of the site has taken place. The POL dump is now being fenced. Three large, horizontal tanks have been added to the previously reported tanks. The five vehicle revetments previously reported are now camouflaged, as are two tents in the same area. Hardstands were being constructed on [redacted] at the entrances of two missile-ready tents. On [redacted] photographic evidence indicates that the sides of these tents have been rolled up and a complete foundation was observed.

The twin - 30mm AAA position is still present; the 57mm AAA position was not covered by the latest photography.

3. Site 3 (22-42-40N 83-08-25W)

Last coverage: Low-level

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a. Readiness Status

The site has a full operational capability.

b. Supporting Evidence

Three of the four launch positions are visible. Since [redacted] the erectors have been moved from these positions. The launch stands and cabling are in place.

c. Significant Trends

Some shift of equipment appears to have taken place. The heavily camouflaged missile transporter observed on [redacted] has been moved. Two probable oxidizer trailers are parked on the north side of the launch site. Netting or canvas has been placed over most of the prepared surfaces between the ready tents and launch positions.

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The last of the eight barracks-type buildings in the support area has been roofed since [redacted]. A roller and grader are working on a hard surface in front of these buildings. Construction activity is evident at the 7 previously observed excavations near the AAA site. Foundations are being prepared and an eighth excavation has been started. Dump trucks loaded with gravel are noted in the area. Additional construction since [redacted] is noted at the arched-roof building, now near completion. Scaffolding is present at the front of the structure.

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Approximately the same number of tents remain in the area. A radar van and another piece of associated equipment is located near the AAA site.

4. Site 4 (22-46-55N 82-58-50W) (See Figure 5.)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site has a full operational capability.

b. Supporting Evidence

This is the first coverage of Site 4 since [redacted]

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At two of the launch positions, the erectors remain in positions as observed on Friday. At one launch point, an uncovered erector is visible but it has been pulled back from the launch stand. This erector was not visible on [redacted]

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[redacted] The fourth erector remains in the same position as was observed on Friday. Within a four day period, additional aggregate was added to the front of this launch stand and also to the road leading to the missile ready tent. There are now six missile-ready tents, one having been erected between the [redacted] One of the missile transporters observed on [redacted] has been moved. In the area where fuel trailers were visible on Friday, there are two separate groups of canvas-covered vehicles. These cannot be identified because of canvas screening. Construction activity continues in the support area on four new building foundations. Dump trucks with aggregate are observed approaching the area.

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c. Significant Trends

Between [redacted] considerable construction and site improvement was accomplished. There is no evidence to indicate that this site was being deactivated when observed on the [redacted]. Conversely, further improvement was underway and the site remained operational. At least one launch position was being hard-surfaced.

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Sagua La Grande MRBM Area

5. Site 1 (22-43-44N 80-01-40W)

Last coverage: Low-level [redacted]

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a. Readiness Status

This site is considered to have a full operational capability.

b. Supporting Evidence

Two of the four launch positions were observed on poor quality, oblique photography. These positions were also observed on [redacted]

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[redacted] An erector not apparent on [redacted] is now observed to the rear of one of the launch stands. A canvas-covered missile transporter is located on the road adjacent to this launch position. The other launch position has been covered with additional canvas screening since Saturday and all equipment is obscured. Fuel and oxidizer transporters, observed in the area on [redacted], have been moved and cannot be located on the latest photography. The cement work observed and reported in Supplement 9 is now complete at two of the three missile-ready tent foundations. The foundation for the third missile-ready tent was under active construction at the moment of photography on the [redacted]

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c. Significant Trends

Evidence indicates that this site was not being deactivated when observed on the latest photography. The continuing construction activity on the missile-ready building foundation clearly indicates site improvement.

6. Site 2 (22-39-10N 79-51-55W)

Last coverage: Low-level

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a. Readiness Status

This site is considered to have a full operational capability.

b. Supporting Evidence

Four of the launch positions were observed on the latest photographic coverage. Since [redacted] two erectors have been removed from their launch positions. One erector remains pulled back, as reported in Supplement 9. One launch position may have the erector in place; if it is, it is heavily screened by canvas. The launch stands remain at the four launch positions. In at least two of these, the cabling can be observed. Nine oxidizer trailers remain in the same position in which they were located on Saturday. Three of five fuel trailers observed previously have remained stationary. The area in which the remaining oxidizers and fuel trucks were last observed was not covered by the latest photography. Sixteen pre-cast concrete arches have been hauled to the probable nuclear weapons storage building site, have been offloaded, and have been partially camouflaged. (See Figure 7.) These were observed in transit on [redacted]

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c. Significant Trends

No evidence exists that this site is being deactivated. Heavy camouflage is evident, and improvements in the canvas screens have been made. The fact that it was raining at the time of the latest coverage may

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account for the overall lack of personnel activity in the site area. The limited photographic evidence available does not permit determination of any site construction or improvement.

Guanajay IRBM Area

7. Site 1 (22-57-00N 82-39-25W)

Last coverage: Low-level

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This site was not covered by photography on [redacted]. It is estimated that this IRBM site could have an emergency operational capability on 15 November and full operational capability by 1 December.

8. Site 2 (22-57-25N 82-36-55W)

Last coverage: Low-level

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a. Readiness Status

It is estimated that this site will have an emergency operational capability by 1 December and a full operational capability by 15 December.

b. Supporting Evidence

No change.

c. Significant Trends

Only one of the missile control buildings and the rectangular building are observable. No other items at the site are visible due to the extreme obliquity of the photography. The observable buildings are still intact.

Remedios IRBM Area

9. Site 1 (22-25-00N 79-35-00W)

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Last coverage: Low-level [redacted]

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a. Readiness Status

This site could have an emergency operational capability by 1 December and a full operational capability by 15 December.

b. Supporting Evidence

Photography of [redacted] revealed that one launch control building was nearly complete and, the other had its vertical framework in place. Construction of the launch pads had progressed.

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c. Significant Trends

The limited coverage and the poor quality of the photography on [redacted] preclude a determination of the continuation or suspension of construction. The launch pad areas are barely identifiable. Good quality, vertical photography of a limited part of the support area on [redacted] reveals a normal motor pool operation. Several vehicles are being repaired at the time of photography.

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Supply and Logistics

(No change)

Coastal Defense

(No change)

Air Defense

15. Tentative ELINT analysis available 30 October indicates that C-Band FRUITSET signals have been intercepted from 17 of the 24 SA-2 site locations in Cuba. Reports of S-Band FRUITSET signals have not been confirmed. Command guidance signals were also recovered from two sites, Chambas and Santa Lucia. SPOONREST signals have been intercepted from 22 of the SA-2 site locations. With the exception of the intercept from the Senado SA-2 site on 19 October, all of these intercepts have been obtained on or since 26 October. These intercepts include signals from the Los Angeles site area near Banes where U-2 wreckage was found.

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16. The locations with which C-Band FRUITSET signals and SPOON-REST signals are tentatively associated are as follows:

<u>Site</u>	<u>FRUITSET</u>	<u>SPOONREST</u>
Bahia Honda	X	X
Havana	X	X
La Coloma	X	X
Mariel	X	X
Matanzas	X	X
San Julian	X	X
Santa Lucia	X	X
Caibarien	X	X
Sagua La Grande	X	X
Sancti Spiritus	X	X
Los Angeles	X	X
Chaparra	X	X
Jiguani	X	X
Manzanillo	-	X
Manati	X	X
Senado	X	X
Chambas	X	X
Esmeralda	X	X
Santiago de Cuba	-	X
Cabanas	-	X
Deleite	-	X
Ciego de Avila	-	X

Tactical Missiles

(No change)

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TABLE 1
SUMMARY OF MRBM AND IRBM THREAT IN CUBA

Status as of 2200 hours on 30 October 1962

Locations	Sites		Launchers		Missiles	
	Total Identified	Probably Planned	Total Identified	Probably Deployed*	Total Identified	Prob Basic Load**
<u>MRBM - Range 1020-nm (non-rotating earth)</u>						
San Cristobal (2 regts)	4	4	16	16	23	32
Sagua La Grande (1 regt)	2	2	8	8	10	16
MRBM TOTAL	6	6	24	24	33	48
<u>IRBM - Range 2200-nm (non-rotating earth)</u>						
Guanajay (1 regt)	2	2	8 under construction	8	0	16

TABLE 1 (Continued)

Locations	Sites		Launchers		Missiles	
	Total Identified	Probably Planned	Total Identified	Probably Deployed*	Total Identified	Prob Basic Load**
Remedios (1 regt)	1	2	4 under construction	8	0	16
IRBM TOTAL	3	4	12 under construction	16	0	32
GRAND TOTAL	9	10	36	40	33	80

* This reflects an estimate of 8 operational launchers authorized per regiment.

** This reflects an estimate of 16 operational missiles per regiment.

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TABLE 2

TABULATION OF EQUIPMENT AT SOVIET MRBM SITES IN CUBA
 Status as of 2200 hours 30 October 1962

Authorized Equipment (Estimated)	8	4	4	8	16	8	4	4	10/0	6/0
<i>San Cristobal Area</i>										
Site 1	8/3	4/0	4/0	8/0	16/0	7/6	4/0	10/0		
	6/4	4/0	4/3	7/3	16/1	5/5	4/3	0/0	1/0	
Site 2	2/0	4/0	4/3	0/0	0/2	5/4	4/3	7/0	2/0	
Site 3	7/0	4/4	4/4	0/0	7/0	6/6	0/1	0/0	0/0	
<i>Sagua La Grande Area</i>										
Site 1	6/1	4/1	4/2	8/0	16/0	5/2	4/2	3/0	0/0	
	4/1	4/1	4/4	8/3	16/9	6/6	3/3	3/2	4/4	
TOTALS	33/9	24/6	24/16	31/6	71/12	34/29	19/12	23/2	13/4	

NOTE: a/b a - Highest number observed at any one time.

b - Number observed last time site was covered (see Figure 1).

The use of camouflage and natural concealment, coupled with the obliquity of photography, has made it difficult in many cases to obtain an accurate count or assessment of equipment.

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TABLE 3
 PROGRESS OF CONSTRUCTION AT SOVIET IRBM SITES IN CUBA
 Status as of 2200 hours 30 October 1962

	Guanajay Site 1	4 u/c	2 c	8	1 u/c	-	-	2 u/c	c	c	c
Guanajay Site 2	4 u/c	2 u/c	-	-	-	-	-	u/c	u/c	c	c
Remedios Site 1	4 u/c	1 c	8	1 u/c	-	-	-	-	u/c	u/c	u/c
<hr/>											
u/c	- Under construction										
c	- Complete										

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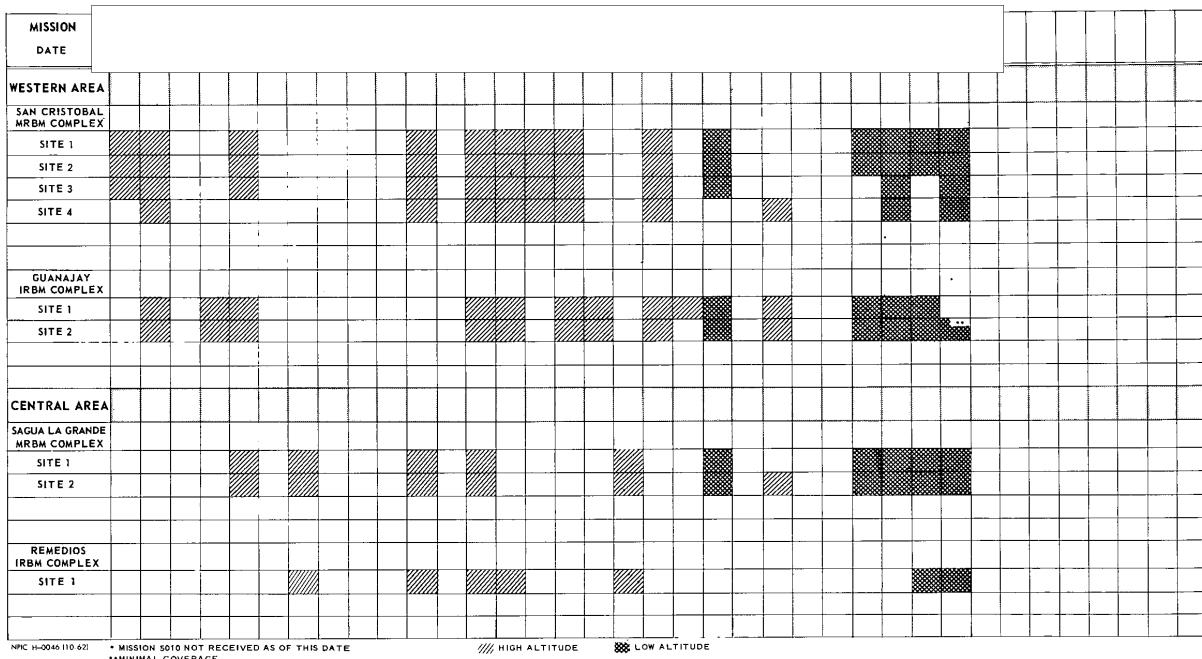


FIGURE 1. SUMMARY OF PHOTOGRAPHIC COVERAGE OF OFFENSIVE MISSILE SITES IN CUBA.

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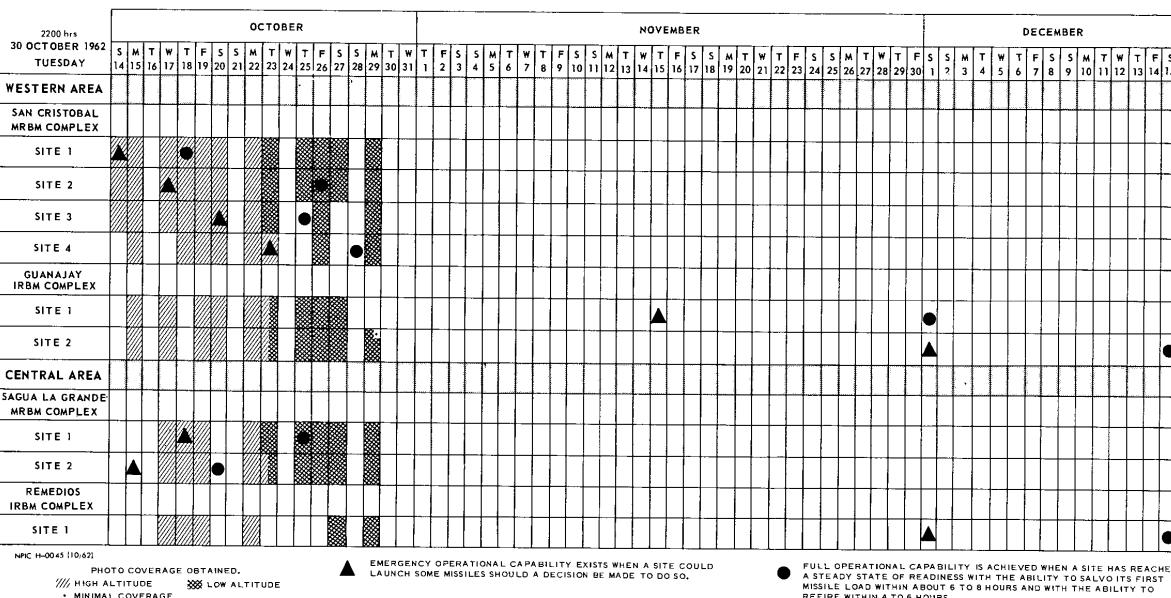


FIGURE 2. ESTIMATED CHRONOLOGY OF OFFENSIVE MISSILE READINESS IN CUBA

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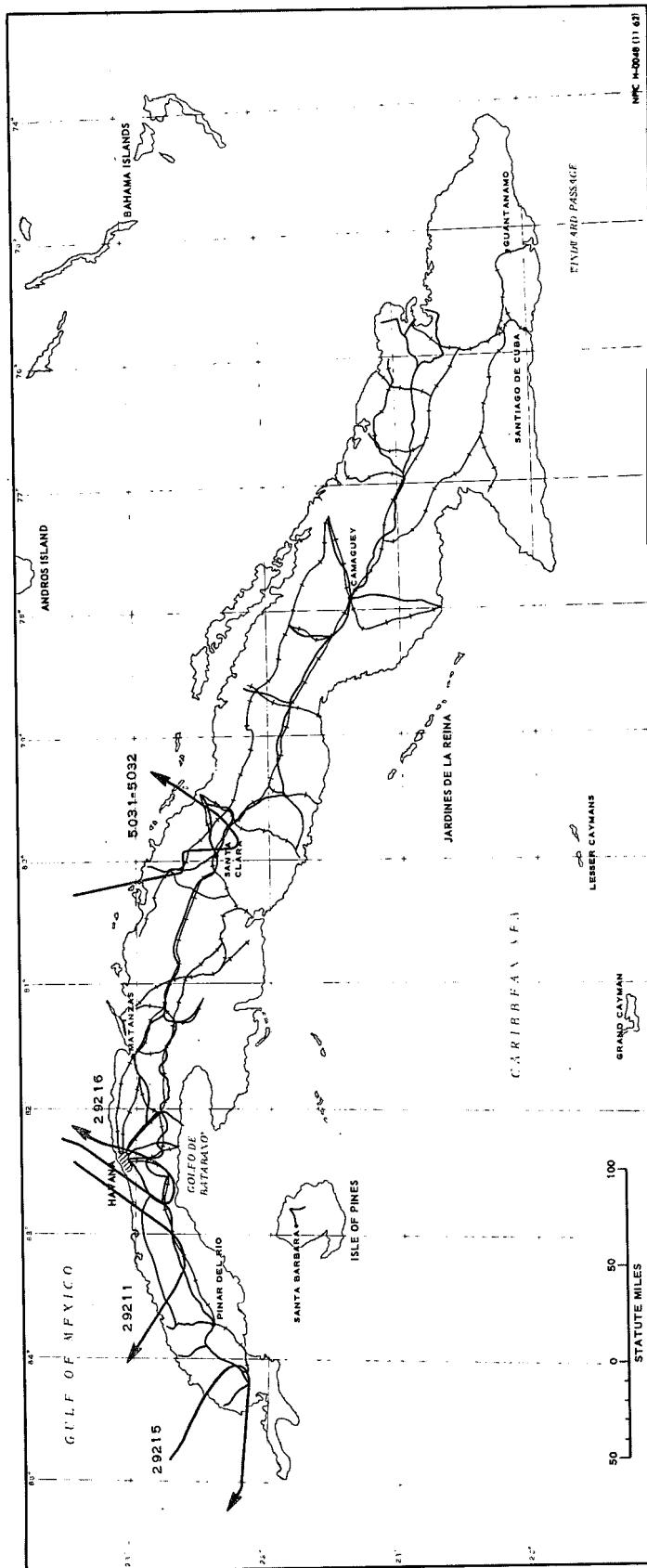


FIGURE 4. APPROXIMATE TRACK OF BLUE MOON MISSIONS OF

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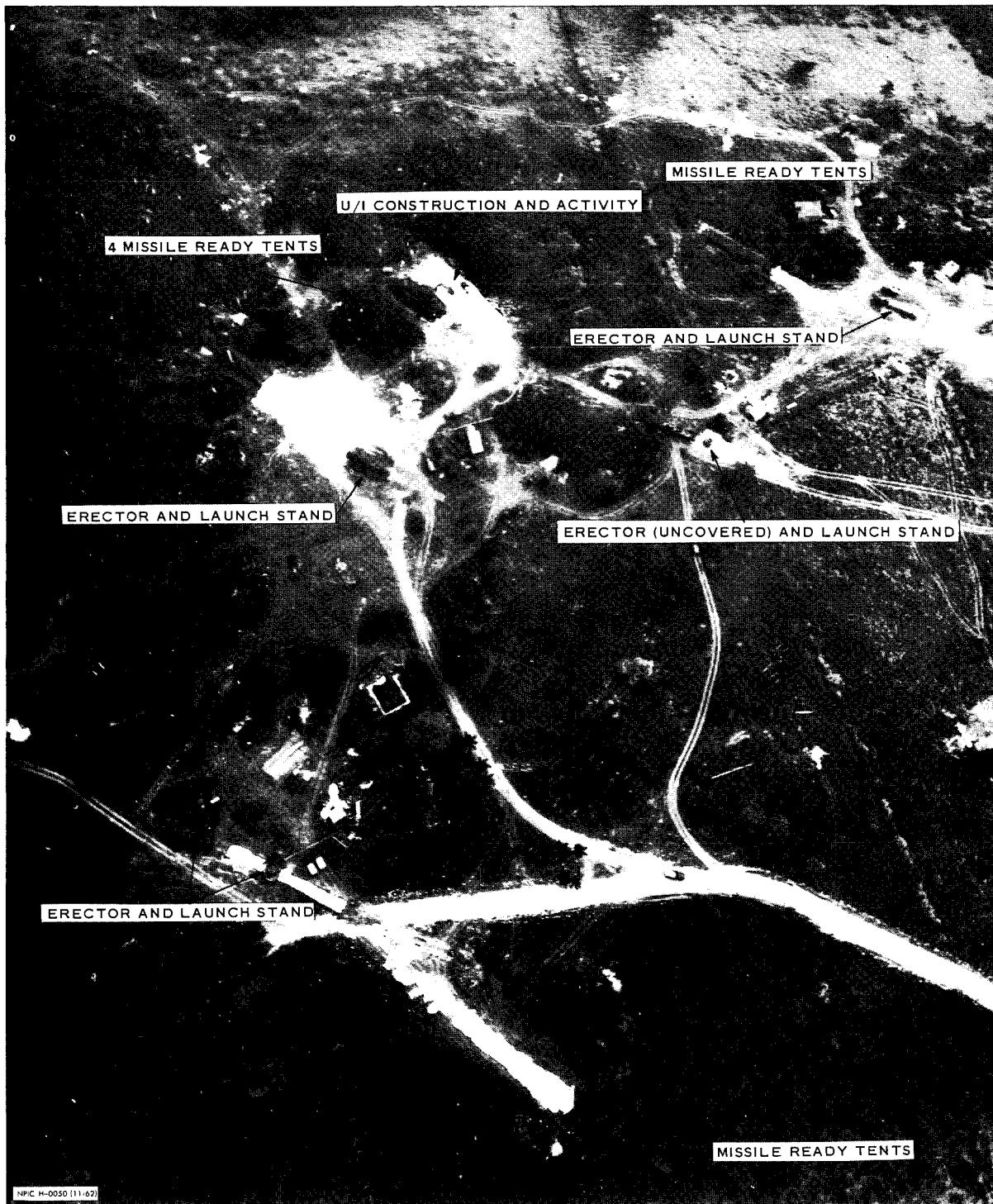


FIGURE 5. SAN CRISTOBAL MRBM SITE 4,

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